STATE OF MICHIGAN
IN THE SUPREME COURT

Appeal from the Michigan Court of Appeals Hon. William B. Murphy, Richard Allen Griffin and Helene N. White presiding Justices

CITY OF TAYLOR, MICHIGAN,

Plaintiff-Appellee,

v.

THE DETROIT EDISON COMPANY,

Defendant-Appellant.

Supreme Court Case No. No. 127580

Court of Appeals Case No. 250648

Wayne County Circuit Court No. 02-221723-CZ

BRIEF OF INTERNATIONAL TRANSMISSION COMPANY AND MICHIGAN ELECTRIC TRANSMISSION COMPANY AS *AMICUS CURIAE* IN SUPPORT OF THE DETROIT EDISON COMPANY'S APPEAL

Daniel J. Martin (P67848)
Attorney for *Amicus Curiae* International Transmission Company
Dykema Gossett PLLC
300 Ottawa Avenue, N.W., Suite 700
Grand Rapids, MI 49503
(616) 776-7500

Stephen O. Schultz (P29084)
Attorney for *Amicus Curiae* Michigan Electric Transmission Co., LLC
Foster Swift Collins & Smith, PC
313 S. Washington Sq.
Lansing, MI 48933
(517) 371-8152

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JURISDICTIONAL STATEMENT

International Transmission Company ("International Transmission") and Michigan Electric Transmission Company L.L.C. ("METC") (together, "Michigan Transcos") adopt by reference Detroit Edison Company's ("Detroit Edison") Jurisdictional Statement. Michigan Transcos add that this Court has jurisdiction to consider this brief under MCR 7.306(D) and the Court's October 6, 2005, Order.

COUNTER-STATEMENT OF QUESTION INVOLVED

1. Does A Local Government's Constitutional Authority To Exercise Reasonable Control Over Its Streets Include The Authority To Order Utility Companies To Remove Overhead Electric Lines And Construct Underground Lines?

Defendant-Appellant Detroit Edison Answers:	"No."
Amicus Curiae Michigan Transcos Answer:	"No."
Plaintiff-Appellee City of Taylor Answers:	"Yes."
Circuit Court and Court of Appeals Answer:	"Yes."

Introduction

> Local authorities not only are ill-equipped to comprehend the needs of the public beyond their jurisdiction, but, and equally important, those authorities, if they had the power to regulate, necessarily would exercise that power with an eye toward the local situation and not with the best interest of the public at large as the point of reference.[1]

The reasonable control of a municipality over its streets does not include control over matters of statewide concern, which are not mere local concerns. The nature of high voltage electric transmission service – such as the service provided over Michigan Transcos' facilities – underscores the important statewide interests involved in reliable and efficient utility service. Indeed, as a matter of national concern, high voltage electric transmission service is regulated by the federal government and involves significant coordination across many states. Critically, moreover, decisions on how to construct high voltage electric transmission facilities involve important engineering issues that must be considered on a scale much broader than the concerns of a municipality.

The people of the State of Michigan are protected against local interest encroachment on issues of statewide importance by a constitutional limitation on local authority and the enforcement of that limitation by the Courts. In this case, a local government, the City of Taylor, decided to beautify its streets by ordering a local electric utility to remove fully-functioning overhead electrical and communications facilities and replace them with underground facilities. The City of Taylor further ordered that the project be completed at no cost to the city. When the City of Taylor sought enforcement of its ordinance in the Circuit Court, the Court failed to recognize the far-reaching implications of the ordinance at issue and compounded its error by

[1] *Duquesne Light Co v Upper St Clair Township*, 337 Pa 323, 336; 105 A2d 287 (1954).

failing to properly recognize the constitutional limitation on local authority. The Court of Appeals then affirmed the Circuit Court's flawed decision.

By reversing the lower courts' decisions, this Court can prevent local governments from unconstitutionally commandeering control over decisions that necessarily implicate statewide needs and concerns involving public utility services.

Statement Of Facts

Michigan Transcos adopt by reference Detroit Edison's Statement of Facts and provide the following additional facts as background regarding their operations and electricity transmission generally.

A. International Transmission and METC

International Transmission and METC, both Michigan corporations, are federally regulated electric transmission companies. (Jipping Affidavit, attached at **Attachment A**, ¶ 5; Stoneburg Affidavit, attached at **Attachment B**, ¶¶ 3-4.) International Transmission owns and maintains high voltage transmission lines and facilities in southeastern Michigan, which exist along 1,940 miles of transmission corridor. (Jipping Affidavit, ¶ 3.) METC owns and maintains high voltage transmission lines and facilities in west Michigan, which exist along 4,400 miles of transmission corridor. These transmission facilities generally connect electric generating plants to lower voltage electric distribution facilities owned by retail electric utility companies such as Detroit Edison and Consumers Energy Company. (Jipping Affidavit, ¶ 6.) In addition to being interconnected to neighboring transmission facilities, International Transmission's facilities serve an area in Michigan comprising 13 counties and nearly 5 million residents while METC's facilities serve an area in Michigan comprising 61 counties and 6 million residents. (Jipping Affidavit, ¶ 4.) As public utility companies, the rates, terms, and conditions of service provided over Michigan Transcos' facilities are fully regulated by the Federal Energy Regulatory Commission ("FERC"). (Jipping Affidavit, ¶ 5.)

B. Electricity Transmission

Electricity is delivered to consumers or "end-users" through a network of electric transmission and distribution lines. (Jipping Affidavit, ¶ 8.) Electricity is transmitted from power plants to substations over transmission lines, which are often supported by steel lattice towers or steel poles. (*Id.*) From substations, electricity then moves to end use consumers over smaller, lower voltage distribution lines that often are placed on wood poles along residential streets. (*Id.*)

While both transmission and distribution facilities are used to transmit electricity, and though historically there was less distinction between the terms "transmission" and "distribution," transmission typically refers to wires used to transmit larger quantities of power over longer distances. (Jipping Affidavit, ¶ 7.) International Transmission's lines operate at 120 kilovolts or more while lines in METC's area operate at 69 kilovolts or more. Distribution lines, which furnish power to retail customers, operate at lower voltages. (*Id.*)

As noted above, FERC regulates high voltage electricity transmission. In addition, due to its nature, the transmission of electricity involves coordination of interconnected transmission utilities across states and regions in the United States. (Jipping Affidavit, ¶ 9-12.) Such coordination, which includes operation of electric transmission facilities, is conducted through regional transmission organizations. (*Id.*) The coordination of transmission utilities, and oversight by regional reliability councils, has been implemented to help ensure the reliable operation of the electricity transmission system. (*Id.*)

While it is feasible for transmission lines to carry electric energy in overhead or underground lines, most transmission systems use overhead lines. (Jipping Affidavit, ¶ 13.) Approximately 140 miles of International Transmission's lines are underground cable. (Jipping

Affidavit, ¶ 14.) Critically, International Transmission's underground lines were planned, designed, engineered, and constructed as underground lines from start to finish, taking into account important engineering requirements for those particular lines. (*Id.*) METC has no underground cable.

Statement of Interest

Approximately 200 miles of International Transmission's rights of way are located in public road rights of way, and METC also has right of way on public road rights of way. (Jipping Affidavit, ¶ 3.) The lower courts' decisions improperly interpreted the Michigan Constitution to allow local governments to order public utility companies to remove overhead electric lines along public road rights of way and replace them with underground lines. Under these decisions, a local government operating with purely local interests in mind apparently could order undergrounding of electric facilities even when it is not technically prudent and in the best interests of Michigan utility consumers. Michigan Transcos submit this *Amicus Curiae* Brief in Support of Appellant Detroit Edison because it is important that this Court reverse the lower courts' misapplication of law, which endangers prudent utility planning and construction best suited to serve the interests of the State of Michigan.

Standard Of Review

Michigan Transcos adopt by reference Detroit Edison's statement of the Standard of Review, which is *de novo*. *Wayne County v Hathcock*, 471 Mich 445, 455; 684 NW2d 765 (2004).

Argument

I. A LOCAL GOVERNMENT'S RIGHT TO "REASONABLE CONTROL" OVER ITS STREETS DOES NOT INCLUDE THE AUTHORITY TO ORDER UTILITY COMPANIES TO REMOVE OVERHEAD TRANSMISSION LINES AND REPLACE THEM WITH UNDERGROUND LINES.

A. A local government's right to reasonable control over its streets does not include the right to control issues that affect statewide interests.

i. The constitutional grant to local governments of reasonable control over their streets excludes issues affecting statewide interests.

The Michigan Constitution of 1908 included a Section granting local governments the authority to exercise control over their streets:

> No person, partnership, association or corporation operating a public utility shall have the right to the use of the highways, streets, alleys or other public places of any city, village or township for wires, poles, pipes, tracks or conduits, without the consent of the duly constituted authorities of such city, village, or township; nor to transact a local business therein without first obtaining a franchise therefor from such city, village or township. The right of all cities, villages and townships to the reasonable control of their streets, alleys and public places is hereby reserved to such cities, villages and townships.

(Const 1908, art 8, §28.) The 1963 Constitution reenacted the 1908 Constitution's grant of reasonable control, merely adding the phrase, "Except as otherwise provided in this constitution" to the sentence granting reasonable control:

> No person, partnership, association or corporation, public or private, operating a public utility shall have the right to use of the highway, streets, alleys or other public places of any county, township, city or village for wires, poles, pipes, tracks, conduits or other utility facilities, without the consent of the duly constituted authority of the county, township, city or village; or to transact local business therein without first obtaining a franchise from the township, city or village. Except as otherwise provided in this counstitution, the right of all counties, townships, cities and villages to the reasonable control of their highways, streets, alleys and public places is hereby reserved to such local units of government.

(Const 1963, art 7, § 29.)

In drafting the grant of authority to local governments, the original drafters were keenly aware that the institutional goals of a local government make it the improper body to decide issues that necessarily have significant statewide impact. Accordingly, the drafters sought to allay the fears that local governments would exercise control over situations of statewide importance by carefully including in the grant of authority a limitation that the control only be exercised when "reasonable":

> [the "reasonable control"] provision was vigorously debated in the Constitutional Convention. Until late in the deliberations the word 'reasonable' did not appear in the section. The delegates feared that, as submitted, the right would be construed to deprive the state of control of highways in municipalities. In the address to the people, submitting the proposed Constitution for adoption, the debates and purpose of the word 'reasonable' were summed up: 'The word 'reasonable' was inserted to place a limitation upon the authority cities, villages and townships may exercise over the streets, alleys, highways and public places within their corporate limits. And it was pointed out in the debates that without the word 'reasonable' or a similar qualification the section would practically deprive the state itself of authority over its highways and public places.'

Detroit, Wyandotte & Trenton Transit Co v City of Detroit, 260 Mich 124, 126-127; 244 NW 424 (1932) (internal citations omitted). The drafters knew that, absent an express limitation, local governments would seek to control decisions of statewide concern:

> In the study of section 28, it is interesting to notice what the committee on submission and address to the people said with reference thereto . . .
>
> * * *
>
> The word 'reasonable' was inserted to a place a limitation upon the authority cities . . . may exercise over the streets, alleys, highways, and public places within their corporate limits . . .
>
> **In other words, the municipality retains <u>reasonable control</u> of its highways, which is such control as cannot be said to be**

> **unreasonable** and inconsistent with regulations which have been established, or may be established, by the state itself with reference thereto. **This construction allows a municipality to recognize local and peculiar conditions**, and to pass ordinances, regulating traffic on its streets, which do not contravene the state laws."

People v McGraw, 184 Mich 233, 237-38; 150 NW 836 (1915)(emphasis added).

The Transmission of Electricity Through Highways Act, 1909 PA 106, MCL 460.551 *et seq.* ("TETHA") provides further evidence that the limitation that local control be "reasonable" was understood to mean that a local government could not attempt to control issues of statewide concern. The Legislature drafted and enacted the TETHA one year after the ratification of Article 8 Section 28 granting local governments "reasonable control." Section 3 of TETHA states that utilities "shall" have the right to use streets, with municipal consent, and reserves a municipality's "reasonable control" to matters of "mere local concern." The Legislature thus chose, a year after the constitutional grant of "reasonable control", to employ precisely the same language in a statutory scheme aimed at authorizing local control over only local matters.

ii. Courts interpreting the parameters of a local government's reasonable control of its streets have recognized that control over issues affecting statewide concerns is not "reasonable."

In cases involving a local government's reasonable control over its streets and the parameters of the constitutional grant of authority, courts have found that reasonable control is limited to matters of local concern and, consequently, that issues affecting statewide interest are beyond the grant of control to local governments:

> Beyond question a municipality has the power to exercise reasonable control of the streets, alleys, and public places within its own limits. This is its constitutional right, and in the exercise thereof it may enact ordinances for the reasonable regulation of interurban motorbusses **provided such regulation does not affect the business outside the municipality** . . .
>
> * * *

> If the attempted regulation operates outside the city limits, as well as inside such limits, it is beyond the scope of a valid ordinance regulation.

North Star Line v City of Grand Rapids, 259 Mich 654, 662-663; 244 NW 192 (1932).

> The power to adopt the ordinance, if any, must be found in the right of the city to reasonable control of its streets.
>
> **'The word 'reasonable' was inserted to place a limitation upon the authority cities, villages and townships may exercise over the streets, alleys, highways and public places <u>within their corporate limits</u>.**

Detroit, Wyandotte, supra, at 126-127 (emphasis added).

> Earlier cases from this Court have interpreted the 'reasonable control' phrase in this constitutional provision and have determined that the control exercised by local units of government is limited and not exclusive.
>
> * * *
>
> Likewise, here the county retains reasonable control over its roads and public places. That control, however, is not exclusive and must give way to matters of statewide concern . . . .

Wayne County Board of Commissioners v Wayne County Airport Authority, 253 Mich App 144, 178-179; 658 NW2d 804 (2002).

Courts have thus found that a local government is not exercising "reasonable control" over its streets when it seeks to make decisions of statewide importance.

B. The authority to order utility companies to remove overhead electric transmission lines and replace them with underground lines is not within a local government's reasonable control over its streets because such decisions necessarily affect substantial interests outside of any one local government's borders.

The decision to place electric facilities overhead or underground cannot be a matter of mere local concern or reasonable control by a municipality. This premise is especially true for, and underscored by the nature of, high voltage electricity transmission. Electricity transmission moves high volumes of electricity over long distances, and the interconnected nature of the electric transmission grid necessitates coordination across many states. (Jipping Affidavit, ¶ 10-11.) Not only is electric transmission a matter of statewide concern, it is a matter of regional and national concern. (*Id.*) In addition, the placement of high voltage transmission lines overhead or underground must consider and accommodate engineering realities that relate to efficiency, reliability, and environmental impacts. (*See generally* Jipping Affidavit.) The very nature of the engineering realities at issue in this context necessarily impact communities beyond any one local government's borders. (*Id.*)

a. Electricity transmission is a matter of statewide and broader concern.

The transmission of electricity at high voltages moves high volumes of power over long distances from generating stations to locations where power is consumed. (Jipping Affidavit, ¶ 7-11.) This electricity flows in many directions across an expansive regional transmission grid in the eastern United States, to which Michigan Transcos are connected. (*Id.*) Particularly due to the nature of electric transmission, actions taken in one location can have broad statewide, regional and broader impacts. (*Id.*) The Northeastern Blackout of August 14, 2003, which originated in Ohio yet caused residents of Ohio, Pennsylvania, New York, Ontario and Michigan

to lose power,[2] provided one stark illustration of how electric transmission issues are matters of broad regional and national concern.

Given its broad impact, transmission service over facilities owned by Michigan Transcos is regulated by FERC under the Federal Power Act.[3] Rates, terms and conditions for that service are approved by and wholly regulated by FERC. (Jipping Affidavit, ¶ 5.)

In addition, electric transmission is heavily coordinated across many states. FERC has encouraged the establishment of regional transmission organizations, which are designed to coordinate the operation of interconnected transmission systems. (Jipping Affidavit, ¶ 5.) Michigan Transcos, for example, are members of and have turned over operational control of their facilities to the Midwest Independent Transmission System Operator, Inc. ("MISO"), a FERC-approved regional transmission organization based in Carmel, Indiana. (Jipping Affidavit, ¶ 10.) MISO's membership includes transmission facilities in 15 states and one Canadian province.[4] (*Id.*) Through MISO, Michigan Transcos' plans to site transmission facilities and conduct maintenance on their facilities are coordinated on a regional basis to promote efficiency and support the reliability of the transmission grid. (*Id.*)

Coordination of transmission service is conducted between many other regional transmission organizations, such as with the Pennsylvania-New Jersey-Maryland Interconnection ("PJM"), which alone covers 13 states and the District of Columbia. (Jipping Affidavit, ¶ 11.) Because protecting and promoting the reliable and efficient operation of the high voltage electric transmission grid is of such critical importance on a regional and national scale, issues related to

[2] U.S.-Canada Power System Outage Task Force, *Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations*, p. 45 (April 2004).

[3] 16 USC 791a *et seq.*

[4] *See* http://www.midwestiso.org.

operating and maintaining transmission facilities are heavily coordinated across broad regions of the country. (*Id.*)

The design, specifications and operation of electric transmission facilities also are coordinated under national and regional reliability standards. Currently, those standards are issued and compliance is monitored by the North American Electric Reliability Council and its regional councils. (Jipping Affidavit, ¶ 12.) This year, as a further illustration of the national concern around electricity transmission, the federal government enacted the Energy Policy Act of 2005 ("EPAct").[5] Under EPAct, in part, FERC is engaged in a process to certify one national Electric Reliability Organization that will be empowered to issue, and enforce with penalties, mandatory transmission reliability standards.[6]

Rather than being an issue of mere local concern and subject to reasonable control of a municipality, high voltage electric transmission is an issue of significant state, regional, and national concern. Fundamentally, the interconnected nature of the transmission system means that actions taken in one local area can impose consequences across the state and in broader regions. In addition, transmission is highly regulated by the federal government. Not only are cost issues for high voltage transmission service covered by FERC regulation, but the reliable and efficient operation of the transmission grid is a matter of significant national concern and constant inter-regional coordination. The "reasonable control" by a municipality over its streets, therefore, cannot include the power to dictate how to engineer utility facilities that involve such strong statewide, regional and national impact interests.

[5] 42 USC 15801 *et seq.*

[6] 16 USC 824o.

b. The decision to order transmission lines underground involves serious technical issues of statewide and broader concern.

1. Efficiency

The process of electric transmission aims to efficiently deliver a large amount of electric current from one point to another. (Jipping Affidavit, ¶ 15.) This process creates heat, and each transmission line has a maximum heat capacity. Overhead transmission lines dissipate heat very efficiently into the air surrounding the lines. Underground transmission lines, on the other hand, are more affected by the heat they produce because, among other things, heat does not dissipate into the ground as easily as into the air. (*Id.*)

Consequently, an equivalent underground transmission line reaches its maximum heat capacity with a lower electric current than does an overhead line. (Jipping Affidavit, ¶ 15.)This results in needing approximately two underground lines for every one overhead line to provide a similar amount of electrical current-carrying capacity. (*Id.*) Accordingly, if a local government can order a utility to take down existing overhead transmission lines and replace them with underground transmission lines, twice as many transmission cables will be needed to simply match the existing amount of current transmitted. This results in both increased costs and increased difficulties to the transmission system.

The electrical properties of underground circuits are such that they have a higher charging current. (Jipping Affidavit, ¶ 16.) Charging current is a current that cannot be converted to functional electricity for the end-user. The charging current consumes a portion of a line's capacity. Because underground transmission lines have greater charging currents than overhead lines there are greater proportions of an underground line's capacity that are unproductive. (*Id.*)

Furthermore, as the distance of a transmission line increases, the amount of the charging current also increases and, eventually, the amount of charging current can make a line unusable.

(Jipping Affidavit, ¶ 17.) The decision to underground a transmission line therefore involves an assessment of the ability of the cable to efficiently transmit the electric current in light of the distances and the resulting charging current. (*Id.*)

Allowing local governments to unilaterally order transmission lines to be undergrounded prevents a utility from making a determination that is based upon the most efficient means of transmission because it precludes an opportunity to assess efficient transmission lengths over distances exceeding the borders of any single local community.

2. Reliability

The decision to replace overhead transmission lines with underground transmission lines creates issues that impact reliability of the statewide power grid for at least two significant reasons. First, the circuit breakers on existing overhead lines might not be able to isolate a fault, and therefore prevent a fault from spreading to other areas, as effectively if the overhead lines are replaced by underground lines. (Jipping Affidavit, ¶ 18.) Underground transmission lines, as compared with overheard transmission lines, have lower impedence. (*Id.*) In essence, the lower the impedence a line has the less resistance the electrical current has as it travels. (*Id.*) Because underground transmission lines have lower impedence than overhead transmission lines, the electricity flows more easily through the system in underground lines. (*Id.*)

There are circuit breakers on the existing system that can detect a fault and, in essence, shut down the portion of the system experiencing the fault before it spreads. (Jipping Affidavit, ¶ 18.) The ability of a circuit breaker to isolate a fault is based upon how quickly it functions and how much fault current it can interrupt. (*Id.*) Available fault current (the amount of fault current that is available) is much higher in underground cable circuits than in overhead circuits because the cable circuits have much larger conductors. (*Id.*) The greater magnitude of available fault current in cable is more likely to cause breaker problems (exceed the breaker

current rating) than the lower available fault current of an overhead line. (*Id.*) As such, the circuit breakers are less likely to allow faults to spread to other parts of the grid if the overhead lines are used. (*Id.*) As a result, terminal equipment would need to be replaced to handle fault current and additional terminal locations/substations may be required.

Another reliability issue involves maintenance. (Jipping Affidavit, ¶ 19.) The average time necessary to repair a fault in an overhead line takes approximately sixteen hours. (*Id.*) On an underground line, however, the average time necessary to repair a fault approaches three weeks to one month. (*Id.*) The drastic difference in amount of time to complete routine maintenance or to make repairs results from the relative ease of locating faults on overhead lines compared to underground lines and the complexity of replacing and splicing underground cable. (*Id.*)

In the event of a fault on an overhead system, workers can literally fly over the lines and locate the problem. (Jipping Affidavit, ¶ 19.) Conversely, workers must use complex testing to determine the precise location of a fault in an underground transmission line. (*Id.*) During the time a line is being repaired, electric current that would otherwise flow through the cable must be diverted to bypass the faulted cable. (*Id.*) Thus, the reliability of any particular line is interconnected to service on other lines outside any one affected local area.

Whether due to the inefficiency caused by wasted charging current, the repair of equipment, or the inability of a circuit breaker to isolate a fault on an underground cable, whenever a cable cannot transmit current over the designated route of a line, the current will seek the route of least resistance. (Jipping Affidavit, ¶ 19.) Because of the interconnected nature of the transmission system's grid, the alternate route will often impact an area distant from the actual underground line. (*Id.*)

3. Environmental impact

One of the City of Taylor's principle motivations in ordering that utilities be undergrounded is the alleged aesthetic improvement of removing utility facilities from sight. But this alleged benefit comes at a cost to the underground environment and is also offset by the structures required at points of connection between overhead and underground lines.

The underground environment presents engineering issues that must be accommodated for in constructing transmission lines. (Jipping Affidavit, ¶ 20.) Because of the heat dissipation issues discussed above, when transmission lines are constructed underground they must be constructed at least five feet underground and have at least five feet of separation between heat sources (e.g. other transmission lines and other utilities such as water and gas lines). (*Id.*) As such, placing transmission lines underground involves a significant disturbance to the underground environment.

To allow for maintenance of underground transmission lines massive manholes must also be created. (Jipping Affidavit, ¶ 21.) The manholes required for underground transmission lines are between twenty and twenty-five feet long and between six and eight feet wide. (*Id.*) The number of these manholes that is required over a given distance depends on the line's route (i.e. straight and flat as opposed to greater variation) and the specifications of the line at issue. (*Id.*) The maximum permissible distance between these massive manholes can be as little as 1500 feet. (*Id.*)

The decision to replace overhead transmission lines in certain areas also leads to the need to construct large cable towers above ground where the newly constructed underground lines connect with overhead lines. (Jipping Affidavit, ¶ 22.) Because these cable towers must be constructed at the point of connection between underground and overhead lines, it is possible

that they will be built in or very near communities that border the local governments that decide to order existing overhead transmission lines be moved underground. (*Id.*)

While Michigan Transcos' electrical transmission systems can tolerate the occasional addition of an underground cable circuit, engineering studies first must be conducted to determine the effect on the transmission system of adding a specific underground line. (Jipping Affidavit, ¶ 23.) In addition, large replacement of overhead circuits with underground circuits is likely to drastically alter the performance of the electrical system. (*Id.*)

b. Because a local government's decision to underground electric lines affects the efficiency, reliability, and environmental impact beyond its borders it is not "reasonable control" and, thus, not permitted by the Constitution.

The City of Taylor's ordinance at issue in this case required Detroit Edison to remove overhead electric facilities located within public road rights of way and replace them with underground facilities. Unless this Court reverses the lower courts' decisions, the ordinance potentially could result in, among other things, International Transmission removing fully-functioning overhead electric transmission lines and constructing massive underground facilities in the City of Taylor. But if International Transmission were to take such an action, the impact will reach far beyond the borders of the City of Taylor. It will impact the efficiency and reliability of the electrical transmission system, and have a substantial environmental impact to both the City of Taylor and its neighboring communities. (*See generally*, Jipping Affidavit.) The lower courts found that the City of Taylor had such authority under its right to "reasonable control," granted under Const 1963, art 7, § 29. It is clear that section provides local governments some authority over local concerns. But it is equally clear that Section 29 (the reenactment of Const 1908, art 8, §28) cannot support the weight the lower courts have put on it

because the City of Taylor's ordinance allows, as the effects of undergrounding transmission lines demonstrate, a local government to control issues of statewide importance:

> [b]eyond question a municipality has the power to exercise reasonable control of the streets, alleys, and public places within its own limits. This is its constitutional right, and in the exercise thereof it may enact ordinances for the reasonable regulation of interurban motorbuses provided such regulation does not affect the business outside the municipality . . .
>
> * * *
>
> If the attempted regulation operates outside the city limits, as well as inside such limits, it is beyond the scope of a valid ordinance regulation.

North Star Line, *supra*, 259 Mich at 662-663.

Because the lower courts decided that 1963, art 7, § 29 permits a local government to regulate issues that can, and in the transmission context necessarily will, affect substantial interests outside that local government's borders, this Court must reverse.

CONCLUSION AND RELIEF REQUESTED

This case requires the Court to decide whether the "reasonable control" language of Article 7, Section 29 of Michigan's Constitution authorizes local governments to order public utility companies to construct facilities in certain ways that will have important statewide effects that local governments are neither incentivized to care about, nor equipped to understand. Michigan Transcos insist the Constitution does exactly the opposite; it precludes a local government from exercising control over important statewide issues.

Accordingly, Michigan Transcos request that this Honorable Court reverse the lower courts' erroneous applications of law and declare the City of Taylor's ordinance void as unconstitutional on its face.

Daniel J. Martin (on)

Daniel J. Martin (P67848)
Attorney for *Amicus Curiae* International Transmission Company
Dykema Gossett PLLC
300 Ottawa Avenue, N.W., Suite 700
Grand Rapids, MI 49503
(616) 776-7500

Stephen O. Schultz (with permission)

Stephen O. Schultz (P29084)
Attorney for *Amicus Curiae* Michigan Electric Transmission Co., LLC
Foster, Swift, Collins & Smith, PC
313 S. Washington Square
Lansing, MI 48933
(517) 371-8152

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ATTACHMENT A

STATE OF MICHIGAN
IN THE SUPREME COURT

Appeal from the Michigan Court of Appeals Hon. William B. Murphy, Richard Allen Griffin and Helene N. White presiding Justices

CITY OF TAYLOR, MICHIGAN,	Supreme Court Case No. No. 127580
Plaintiff-Appellee,	Court of Appeals Case No. 250648
v.	Wayne County Circuit Court No. 02-221723-CZ
THE DETROIT EDISON COMPANY,	
Defendant-Appellant.	

AFFIDAVIT OF JON E. JIPPING

THE STATE OF MICHIGAN)
)
THE COUNTY OF OAKLAND)

1. I, Jon E. Jipping, make this Affidavit based upon my personal knowledge, information and belief, and I can competently testify to the facts contained in this Affidavit if called upon to do so.

2. I am the Vice-President of Engineering for International Transmission Company ("International Transmission"). I also hold a Professional Engineer license.

3. International Transmission owns and maintains high voltage transmission lines and facilities in southeastern Michigan, which exist along 1,940 miles of transmission corridor and are used for the transmission of electricity in interstate commerce. Approximately 200 miles of International Transmission's right-of-way are located in public road rights-of-way.

4. International Transmission's facilities serve an area in Michigan comprising 13 counties and nearly 5 million residents. International Transmission's facilities are interconnected

with the regional transmission grid, over which electricity flows broadly within the state as well as across state boarders

5. The Federal Energy Regulatory Commission ("FERC") regulates interstate wholesale trade and the associated transmission interconnections. Federally owned utilities and state and municipally owned utilities are not regulated by FERC but must follow federal regulations if they wish to buy and sell electricity in the wholesale market. As a public utility, the rates, terms, and conditions of service provided over International Transmission's facilities are fully regulated by the FERC. The state retains jurisdiction over the siting of International Transmission's facilities.

6. Generally, the transmission facilities owned by International Transmission connect electric generating plants to lower voltage electric distribution facilities, which are owned by retail electric utility companies such as The Detroit Edison Company ("Detroit Edison").

7. Electricity is delivered to consumers or "end-users" through a network of electric transmission and distribution lines (the "grid.") The main characteristics that distinguish transmission lines from distribution lines are that transmission lines are operated at higher voltages, they transmit larger quantities of power, and they transmit power over longer distances. International Transmission's lines operate at 120 kilovolts or more, while lines in the Michigan Electric Transmission Company LLC's ("METC") area operate at 69 kV or more. Distribution systems, which furnish power to retail customers, operate at lower voltages.

8. Electricity is delivered to consumers or "end-users" through a network of electric transmission and distribution lines. Electricity is transmitted from power plants to substations over transmission lines, which are often supported by steel lattice towers or steel poles. From

substations, electricity then moves to end use consumers over smaller, lower voltage distribution lines that often are placed on wood poles along residential streets. In essence, electric transmission lines provide transport highways to move electricity from the generation sources to concentrated areas of customers. From there, the distribution system moves the electricity to where the customer uses it at a business or home.

9. Electricity, when transmitted, flows over all available paths to reach the customer, and it cannot be easily directed in one particular path. Therefore, the buying and selling of electricity requires direct coordination and proactive monitoring of the electrical system. If a problem develops somewhere, the impact affects other operations elsewhere on the grid.

10. To coordinate the operation of high voltage electric transmission facilities, FERC has encouraged the establishment of regional transmission organizations. The Michigan transmission companies like International Transmission and METC (collectively, "Michigan Transcos") are members of, and indeed have turned over operational control of most of their facilities, to the Midwest Independent Transmission System Operator, Inc. ("MISO"), a FERC-approved regional transmission organization based in Carmel, Indiana. MISO's membership includes transmission facilities in 15 states and one Canadian province. Through MISO, Michigan Transcos' plans to site transmission facilities and conduct maintenance on its facilities are coordinated on a regional basis to promote efficiency and support the reliability of the transmission grid.

11. Coordination of transmission is conducted between many other regional transmission organizations, such as the Pennsylvania-New Jersey-Maryland Interconnection ("PJM"), which alone covers 13 states and the District of Columbia. Because protecting and promoting the reliable and efficient operation of the high voltage electric transmission grid is of

such critical importance on a regional and national scale, issues related to operating and maintaining transmission facilities are heavily coordinated across broad regions of the country.

12. The design, specifications and operation of electric transmission facilities also are coordinated under national and regional reliability standards. Those standards are issued and compliance is monitored by the North American Electric Reliability Council and its regional councils.

13. Transmission lines can carry their electric energy in either overhead or underground lines but most transmission systems use overhead lines.

14. Approximately 140 miles of International Transmission's lines are underground cable. These underground lines were planned, designed, engineered, and constructed as underground lines from start to finish, taking into account the necessary space requirements for an underground line.

15. The process of electric transmission aims to efficiently deliver a large amount of electric current from one point to another. This process creates heat, and each transmission line has a maximum heat capacity. Overhead transmission lines dissipate heat very efficiently into the air surrounding the lines. Underground transmission lines are more affected by the heat they produce because, among other things, heat does not dissipate into the ground as easily as into the air. Consequently, an equivalent underground transmission line reaches its maximum heat capacity with a lower electric current than does an overhead line. This results in needing approximately two underground lines for every one overhead line to provide a similar amount of electrical current-carrying capacity.

16. The electrical properties of underground circuits are such that they have a higher charging current. Charging current is a current that cannot be converted to functional electricity

for the end-user. The charging current consumes a portion of a line's capacity. Because underground transmission lines have greater charging currents than overhead lines, there are greater proportions of an underground line's capacity that are unproductive.

17. As the distance of a transmission line increases, the amount of the charging current also increases and, eventually, the amount of charging current can make a line unusable. The decision to underground a transmission line therefore involves an assessment of the ability of the cable to efficiently transmit the electric current in light of the distances and the resulting charging current.

18. The decision to replace overhead transmission lines with underground transmission lines can negatively impact the reliability of the statewide power grid because circuit breakers on existing overhead lines might not be able to isolate a fault, and therefore prevent a fault from spreading to other areas, as effectively if the overhead lines are replaced by underground lines. Underground transmission lines, as compared with overheard transmission lines, have lower impedence. In essence, the lower the impedence a line has the less resistance the electrical current has as it travels. Because underground transmission lines have lower impedence than overhead transmission lines, the electricity flows more easily through the system in underground lines. There are circuit breakers on the existing system that can detect a fault and, in essence, shut down the portion of the system experiencing the fault before it spreads. The ability of circuit breakers to isolate a fault is based upon how quickly it functions and how much fault current it can interrupt. Available fault current (the amount of fault current that is available) is much higher in underground cable circuits than in overhead circuits because the cable circuits have much larger conductors. The greater magnitude of available fault current in cable is more likely to cause breaker problems (exceed the breaker current rating) than the lower

available fault current of an overhead line. As such, the circuit breakers are less likely to allow faults to spread to other parts of the grid if the overhead lines are used.

19. The decision to replace overhead transmission lines with underground transmission lines can negatively impact maintenance and thus reliability. The average time necessary to repair a fault in an overhead line takes approximately sixteen hours. On an underground line, however, the average time necessary to repair a fault approaches three weeks to a month. The drastic difference in amount of time to complete routine maintenance or to make repairs results from the relative ease of locating faults on overhead lines compared to underground lines and the complexity of replacing and splicing underground cable. In the event of a fault on an overhead system, workers can literally fly over the lines and locate the problem. Conversely, workers must use complex testing to determine the precise location of a fault in an underground transmission line. During the time a line is being repaired, electric current that would otherwise flow through the cable must be diverted to bypass the faulted cable. Thus, the reliability of any particular line is interconnected to service on other lines outside any one affected local area. Whether due to the inefficiency caused by wasted charging current, the repair of equipment of the inability of a circuit breaker to isolate a fault on an underground cable, whenever a cable cannot transmit current over the designated route of a line, the current will seek the route of least resistance. Because of the interconnected nature of the transmission system's grid, the alternate route will often impact an area distant from the actual underground line.

20. The underground environment presents engineering issues that must be accommodated for in constructing transmission lines. Because of the heat dissipation issues discussed above, when transmission lines are constructed underground they must be constructed at least five feet underground and have at least five feet of separation between heat sources (e.g.

other transmission lines and other utilities such as water and gas lines). As such, placing transmission lines underground involves a significant disturbance to the underground environment.

21. To allow for maintenance of underground transmission lines massive manholes must also be created. The manholes required for underground transmission lines are between twenty and twenty-five feet long and between six and eight feet wide. The number of these manholes that is required over a given distance depends on the line's route (i.e. straight and flat as opposed to greater variation) and the specifications of the line at issue. The maximum permissible distance between these massive manholes can be as little as 1,500 feet.

22. The decision to replace overhead transmission lines in certain areas also leads to the need to construct large cable towers above ground where the newly constructed underground lines connect with overhead lines. Because these cable towers must be constructed at the point of connection between underground and overhead lines, it is possible that they will be built in or very near communities that border the local governments that decide to order existing overhead transmission lines be moved underground.

23. While Michigan Transco electrical transmission systems can tolerate the occasional addition of an underground cable circuit, engineering studies first must be conducted to determine the effect on the transmission system of adding a specific underground line. In addition, large replacement of overhead circuits with underground circuits is likely to drastically alter the performance of the electrical system.

If sworn as a witness in any proceeding, I am competent to testify as to the matters set forth herein.

Further affiants sayeth not.

Jon E. Jipping

Subscribed to and sworn to before me
this 1st day of December 2005.

Janet E. Reed Notary Public

Oakland County, MI

My commission expires: Aug. 26, 2008

JANET E REED
NOTARY PUBLIC LIVINGSTON CO., MI
MY COMMISSION EXPIRES Aug 26, 2008
ACTING IN THE COUNTY OF

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ATTACHMENT B

STATE OF MICHIGAN
IN THE SUPREME COURT

Appeal from the Michigan Court of Appeals Hon. William B. Murphy, Richard Allen Griffin and Helene N. White presiding Justices

CITY OF TAYLOR, MICHIGAN,	Supreme Court Case No. No. 127580
Plaintiff-Appellee,	Court of Appeals Case No. 250648
v.	Wayne County Circuit Court No. 02-221723-CZ
THE DETROIT EDISON COMPANY,	
Defendant-Appellant.	

AFFIDAVIT OF EDWARD F. STONEBURG

THE STATE OF MICHIGAN)
)
THE COUNTY OF WASHTENAW)

1. I, Edward F. Stoneburg, make this Affidavit based upon my personal knowledge, information and belief, and I can competently testify to the facts contained in this Affidavit if called upon to do so.

2. I am the Vice-President of Transmission Support Services for Michigan Electric Transmission Company, LLC ("METC"). I also hold a Professional Engineer license.

3. METC is an electric transmission-only business that owns and maintains high voltage transmission lines and facilities in west Michigan, which exist along 4,400 miles of transmission corridor. Its facilities serve 61 counties and 6 million residents. METC has no underground cable.

4. METC is federally regulated by the Federal Energy Regulatory Commission.

5. METC is a member of the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO"), located in Carmel, Indiana. As such, the Midwest ISO maintains functional control over the jurisdictional transmission facilities of METC, including tariff administration. Many of the initial interactions and ongoing transmission customer and client support are conducted by the Midwest ISO as the regional and centralized transmission service provider, on behalf of METC.

If sworn as a witness in any proceeding, I am competent to testify as to the matters set forth herein.

Further affiants sayeth not.

Edward F. Stoneburg

Subscribed to and sworn to before me
This 30th day of November 2005.

Notary Public

Washtenaw County, MI

AUDREY H. O'ROURKE
Notary Public, Washtenaw County, Michigan
Acting in Washtenaw County Michigan
My Commission expires Oct. 12, 2008

My commission expires: 10-12-2008

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